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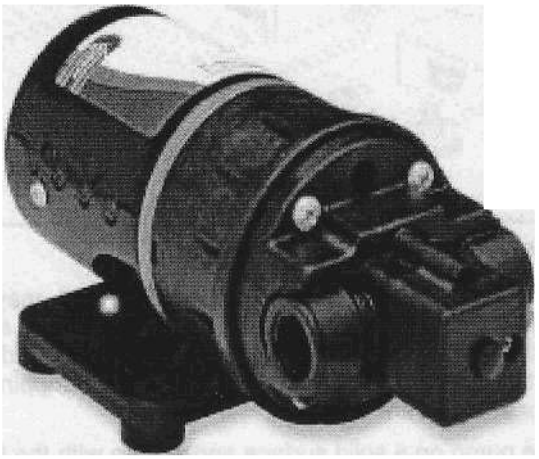
Model 46010 & 46020 Series

PAR-MAX™ 2
Automatic Wat.er Pressure Pump and General Purpose Pump



Model: 46010 & 46020 Series

FEATURES

- Self-Priming
- Run Dry
- Super Quiet
- Smooth Flow
- low Current Draw
- Extra low Profile
- Easy to Install
- *1/2"* (13 mm) and 1/2" threaded Hose Adaptors included
- Compiles with USCG Regulation 183.410 and ISO 8846 MARINE for Ignition Protection
- Pumps comply with BSEN 50081·2 and *89/336/EEC* Electromagnetic Compatibility requirements and are CE marked.

SPECIFICATIONS

Pump Design:	Dual Chamber Diaphragm
Pump Drive:	BallfSleeve Bearing
Suction Lift:	Self-priming to 4 ft {1.2 m}
Ports:	Threaded, 3/8" NPT Female
Motor:	Permanent Magnet
Weight:	3.21b (1.5 k9)
Dimensions:	8.2" L x 3.25" W x 3.75" H (206 mm) x (83 mm) x (95 mm)

PAR·MAX 2 46010

The PAR·MAX 2 automatic water system pump (46010) is designed for self-contained RVs and pleasure boats with multi·fixture water systems. The system is automatic when a faucet is opened, the pump instantly begins operation to provide a constant now from tank to faucet. Closing the faucet automatically discontinues pump operation.

PAR·MAX 2 46020

The 46020 is a non·switched pump. The pump will not turn off automatically. It is recommended you utilize a "lighted" on-off switch so that the pump is turned off when not in use. The pump is able to run dry (no liquid) for extended periods with no damage to the pump, however this could cause needless battery drain.

PUMP PERFORMANCE /ELECTRICAL SPECIFICATIONS

VARIATIONS MODEL	VOLTAGE	GPM/LPM	PRESSURE (bar) CUT-IN	PRESSURE (bar) CUT·OUT	AMP DRAW @10PSI	FUSE SIZE
46010-2900	12 Vdc	2.3/8.7	20(1.4)	40 (2.8)	6	8
46010-2901	24 Vdc	2.3/8.7	20 (1.4)	40 (2.8)	3	5
46010-2910	12Vdc	2.3/8.7	10 (0.7)	20(1.4)	6	8
46010-2911	24 Vdc	2.3/8.7	10 (0.7)	20(1.4)	3	5
46020-2900	12Vdc	2.3/8.7	no switch		6	8
46020-2901	24 Vdc	2.3/8.7	no switch		3	5

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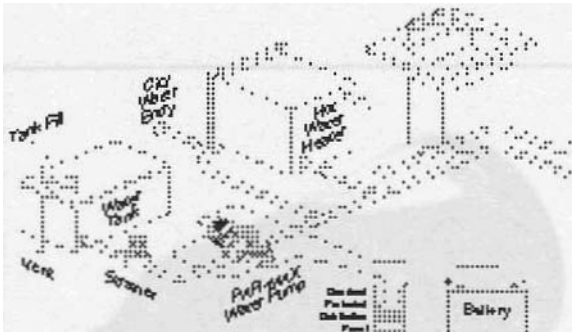
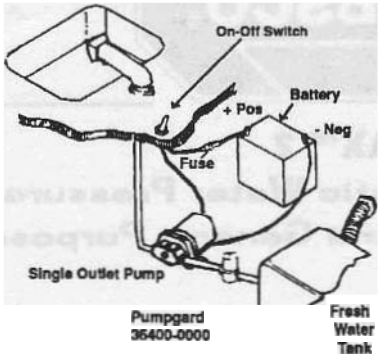
INSTALLATION

46010 Serl••



46020 Seri••



MOUNTING

The PAR-MAX 2 pump is self-priming and may be located above or below the fresh water tank in a dry location. To vertically mount this unit, it is best to do so with the motor on top. This will prevent waler dripping on motor in the event of a leak.

Place pump on a solid surface and secure with the three mounting screws being careful not to compress the rubber grommets which act as shock absorbers.

PLUMBING

Flexible potable waler hose is recommended instead of rigid piping at pump. If you choose to use copper, provide a short length of hose between copper pipe and the pump to avoid noise and vibration. Use clamps at both ends of hose to prevent air leaks into the water line. NOTE: Intake hose must be minimum *1/2-* (13 mm) 10 reinforced hose. Main distribution line from pump should also be *1/2-* (13 mm)IO with branch and individual supply lines to outlet no smaller than *318-* (10 mm). Select two of the port adaptors supplied to match your plumbing system. 00 not overtighten adaptors - hand tighten only. A Jabsco "Pumpgard" 36400-0000 in line strainer should be installed between pump and tank to keep debris out of system. Fresh water tank must be vented. The pump inlet and outlet hoses may be wrapped with foam rubber to prevent unnecessary noise from hydraulic vibrators. Avoid any kinks or fittings which could cause excessive restrictions. Remember to periodically clean faucet screens. Water purifiers or filters usually create back-pressure and should be on separate feed.

fire **hazard. Wiring must** comply wilh **applicab** le **electrical standards** and indude a properly **sized** fuse or **circuit breaker.** Improper wiring **can cause** a fire **resulting** in **injury** or **death.**

IF YOU ARE NOT FAMILIAR WITH APPLICABLE ELECTRICAL STANDARDS, HAVE THE UNIT INSTALLED BY A QUALIFIED ELECTRICIAN.

Explosion hazard. 00 not pump **gasoline or other flammable liquids.** To do **so can cause an explosion resulting** in **injury** or **death.**

WIRING

The pump should be wired in a dedicated circuit independent of an other accessories. Connect the red wire on the pressure switch to an overload protected switch Or breaker panel with a breaker (fuse) of the correct amp rating determined from the electrical specification chart. Connect the motor's black wire lead to battery negative.

Select wire size from chart below. Use total length of wire from electrical source to pump and return. Chart allows for 3% voltage drop. If in doubt, use next larger wire size.

TOTAL LENGTH IN FEET	0·20 (0·6m)	20·35 (6·11m)	35·55 (11.17m)
12 Volt	#14AWG (2.5 mm²)	#12AWG (4 mm²)	#10AWG (6 mm²)
24 Volt	#16AWG (1.5 mm²)	#14AWG (2.5 mm²)	#12AWG (4 mm²)

After installation, check the voltage at the pump motor. Voltage should be checked when pump is operating. Full voltage must be available at the pump motor at all times.

OPERATION

1. Check level of water in tank.
2. Open all faucets hot and cold.
3. Switch pump to on position and wait for hot water tank and water lines to fill.
4. Close each faucet as flow becomes steady and free of air (close cold water first). Pump should shut off soon after closing last faucet.
5. Pump is now ready for automatic operation. It will start when faucet is opened and stop when faucet is closed.
6. If pump will be inoperative for a considerable length of time, tum off power to pump and relieve the water pressure by opening a faucet.

⚠CAUTION Motor case will gel hot. Prolonged contact during operation may cause a bum.

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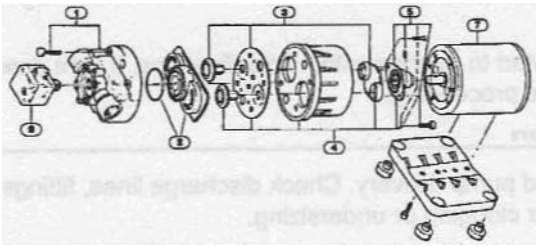

DISASSEMBLY

Pr.....r. Switch

1. Remove switch (9). Disconnect switch wires.
2. Loosen four pump head screws and carefully remove upper housing assembly (1).

Upper Ho....ing

Follow steps 1 and 2

3. Inspect check valve (2) for debris.
4. Reassemble new upper housing (1).

Check V.lve A ---mbly

Follow steps 1 and 2

3. Replace check valve (2).
4. Reassemble upper housing (1).

Low.... Ho....ing, Dl.ph,.""." Motor

Follow steps 1 and 2, then remove 2 recessed screws.

3. Rotate lower housing (4) so drain notch opening on lower housing near baseplate exposes sel screw which holds bearing housing to shaft.
4. Loosen this set screw by inserting wrench 1/8" Allen wrench into drain notch opening. Then, slide lower housing (4) off motor shaft.

D••ph,.."m contln....d

5. l oosen two cam piston screws with Phillips head screwdriver and pull apart cam from inner pistons. (Pistons should always be replaced when a new diaphragm is installed.)

Mot.or continued

5. Replace motor

REASSEMBLY

Motor

1. Reassemble lower housing assembly (4) to motor. (Follow steps 4 10 10.)

Diaphragm

2. lower housing is assembled with:
   - Flat side of diaphragm and outer pistons facing motor
   - Hex stem of inner pistons must be aligned into hex holes in outer pistons (4).
   - Outer pistons must be aligned with alignment slots on cam assembly making sure screw holes align in cam assembly, otherwise diaphragm will leak.
3. Tighten cam piston screws partially, center piston in diaphragm, then tighten screws securely (16 in. lbs. torque).

Lowe[r] Housing

4. Reassemble lower housing assembly (4) to motor.
5. Retighten set screw securely. Set screw head must be positioned facing motor covering seam (indentation). (Positioning of this screw is critical to avoid misalign· ment and subsequent diaphragm damage.)

Upper Housing, Ch.ck V.lv.

6. Reassemble upper housing (1).
7. Properly seat Q·Ring in check valve assembly (2) and check If ferrules and screen are in place on upper housing (1).
6. Install check valve (2) into upper housing (1) and push in.
9. Assemble onto lower housing (4), align 4 screws onto motor by rotating lower housing (4) if necessary.
10. Tighten screws evenly to 30 in. lbs. torque.

Pr---ure S_lt.ch

1. Place switch against front of pump (9), insert screws and lake care not to cross thread or strip oullhreads in housing.
2. Reconnect wires.

PUMP SERVICE PARTS

KEY	DESCRIPTION	46010-2900	46010-2901	46010·2910	46010-2911	46020-2900	46020-2901	46030-2900
7	Molor Kit, 12Vdc CE	18753-0640		18753-0640		18753-0640		18753-0651
7	Motor Kit, 24Vdc CE		18753-0641		18753-0641		18753-0641	
2,3,5	Service Kil	18753-0642	18753-0642	18753-0642	18753·0642	18753-0642	18753-0642	18753-0642
9	Switch Kil, 40 psi	18753·0644	18753-0644					18753-0650
9	Switch Kil, 20 psi			18753-0650	18753·0650			

PORT CONNECTORS

PART NUMBER	PUMP CONNECTION		PLUMBING CONNECTION
18753-0645	318" NPT (m)	x	3/8" Hose Barb 90· Elbow
18753-0646	318" NPT (m)	x	3/8" Hose Barb Straight
18753-0647	318" NPT (m)	x	1/2" Hose Barb 90· Elbow
18753-0648	318" NPT (m)	x	1/2" Hose Barb Straight
18753-0649	318" NPT (m)	x	1/2"-14 (Oest) Straight Pipe

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All lights are thoroughly inspected before shipping and are warranted to operate within specifications. If light does not operate correctly. check fuse and wire harness connections before proceeding.

Probl.1Tl	Solut.ion
PULSATING FLOW - PUMP CYCLES ON AND OFF	Restricted pump delivery. Check discharge Hnes, fittings and valves for clogging or undersizing.
FAILURE TO PRIME - MOTOR OPERATES, BUT NO PUMP DISCHARGE	• Restricted intake or discharge line. • Air leak in intake tine. • Punctured pump diaphragm • Debris under flapper valves • Crack in pump housing
MOTOR FAiIS TO TURN ON	• Loose wiring connection • Pump circuit has no power • Blown fuse • Pressure switch failure • Defective motor
PUMP FAILS TO TURN OFF AFTER ALL FIXTURES ARE CLOSED.	• Empty water tank • Punctured pump diaphragm • Discharge line leak • Defective pressure switch • Insufficient voltage to pump • Debris under flapper valves
LOW FLOW AND PRESSURE	• Air leak at pump intake • Accumulation of debris inside pump and plumbing • Worn pump bearing (excessive noise) • Punctured pump diaphragm • Defective motor

WINTERIZING YOUR WATER SYSTEM

To winterize, is is necessary to drain the water from the entire water system. Blowing into the lines to remove the water from your water system is not satisfactory due 10 the check valve mechanism built into the pump.

Follow these sleps to remove all waler from your water system:

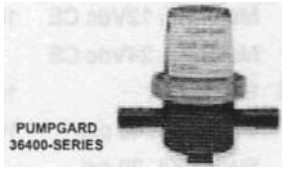
1. Drain water by opening lank drain, or open a fixture and allow pump to operate until tank is dry.
2. Open the lowest outlet in water system to drain lines.
3. To remove any remaining water (about a cup), remove oullet hose on pump and activate pump. To blowout lines, attach air nozzle where outlet hose was removed. Make sure all fixtures are open before starting.
4. Your water system is now winterized. Don't forget to reattach the outlet hose and close all fixtures.

⚠ DANGER DO NOT USE AUTOManVETYPE AN.TI·FREEZE. IT IS POISONOUS. USE OFTH1STVPe ANTI·FREEZEWILL CAUSE SERIOUS INTERNAL INJURY OR DEATH.

JABSCO WATER PRESSURE SYSTEM ACCESSORIES


REGULATOR
44410-SERIES


ACCUMULATOR TANKS
30573-0000


PUMPGARD
36400-SERIES

Jabsco

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THE PRODUCTS DESCRIBED HEREIN ARE SUBJECT TO THE JABSCO ONE YEAR LIMITED WARRANTY, WHICH IS AVAILABLE FOR YOUR INSPECTION UPON REQUEST.

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